Paper No. 29

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BERND STREICHER

Appeal No. 2002-0612
Application 09/254,631

HEARD: July 10, 2002

Before STAAB, McCQUADE and BAHR, *Administrative Patent Judges.*

STAAB, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on an appeal from the examiner's final rejection of claims 17, 20-33 and 37. Claims 18, 19 and 34-36, the only other claims pending in the application, have been allowed.[1]

Appellants' invention pertains to a radial piston pump, and in particular to a high pressure seal means for sealing the interface between two housing portions of a radial piston pump.

[1]The amendment filed subsequent to the final rejection (Paper No. 16) has been entered.

An understanding of the invention can be derived from a reading of exemplary claim 17, a copy of which appears in the appendix to appellants' main brief.[2]

The references applied in the final rejection are:

Pierce, Jr. (Pierce)	4,410,186	Oct. 18, 1983
Lee, III et al. (Lee)	5,121,947	Jun. 16, 1992
Arnold et al. (Arnold)	5,571,243	Nov. 05, 1996

Claims 17, 20, 21, 23, 31-33 and 37 stand rejected under 35 U.S.C. § 103 as being unpatentable over Arnold in view of Pierce.

Claims 21-30 stand rejected under 35 U.S.C. § 103 as being unpatentable over Arnold in view of Pierce and further in view of Lee.

Reference is made to appellants' main and reply briefs (Paper Nos. 21 and 23) and to the examiner's answer (Paper No. 22) for the respective positions of appellants and the examiner regarding the merits of these rejections.

I. The § 103 rejection based on Arnold and Pierce.

Arnold, the examiner's primary reference, pertains to a radial piston pump having components that correspond generally to

[2]In addition to the appealed claims, said appendix also includes a copy of allowed claims 18, 19 and 34-36.

the pump components called for in independent claim 17. More specifically, Arnold's pump includes a piston 42 that reciprocates in a cylinder 21, passages 54, 55 that collectively comprise an intake opening, an intake check valve 50 in the intake opening, passages 59, 60 that collectively comprise a high pressure outlet opening, an outlet check valve 51 in the high pressure outlet opening, housing parts 53, 20 that are bridged by the high pressure outlet opening, and an element (not numbered) in the outlet opening at a location where it crosses from one housing part to the other, said element presumably acting to seal the outlet opening at said location.

Concerning the sealing of the outlet opening at the location where it crosses from one housing part to the other, claim 17 states that the high pressure outlet opening

> is provided with a metallic high-pressure sealing element (106, 114, 126, 130-134) which includes end faces, and that *the housing part (22),* with the interposition of the metallic high-pressure sealing element, *is tightened against the housing base body (30) by way of screws (69) in such a way that the high-pressure side is sealed through the clamping of the high-pressure sealing element,* with second fuel outlet opening (61), said third outlet opening (65), and said high-pressure sealing element all being coaxial, *with the end faces of the high-pressure sealing element providing the sealing function.* [Emphasis added.]

The examiner looks to the aforementioned unnumbered element in the high pressure outlet opening of Arnold, of which Arnold's specification is silent, to meet these claim limitations. While both appellants and the examiner agree that this unnumbered element performs some sort of sealing function, precisely how that sealing function is brought about is a hotly contested issue in this appeal. Appellants contend that the sealing takes place only at the sides of the unnumbered element at members that appear (to appellants) to be o-rings. The examiner maintains that sealing takes place both at these o-rings and also at the end faces of the unnumbered element. More particularly, the examiner considers that

> *Arnold et al. teach that the high-pressure sealing element provides the sealing function at its end faces* (see the following figure)[3], and the o-rings provide redundant sealing, as was known by one of ordinary skill in the art. *Arnold et al. teach that, as the cylinder head is tightened onto the casing 20, the high-pressure affected sealing points (which, in the Arnold, et al. reference are at the end faces of the sealing element) are tightened against metallic surfaces*. [Answer, page 5; emphasis added.]

In the "Response to Argument" section of the answer, the examiner further notes that housing part 53 of Arnold is

[3]The figure in question, an enlarged view of the unnumbered element of Figure 1 of the Arnold patent, appears at the bottom of page 5 of the answer.

tightened against housing part 20 by means of screws (column 2, lines 44-46). As the examiner sees it,

> when the head 53 is tightened against the casing 20, the head 53 provides an axial force against the sealing element, which, in turn provides an axial force at its lower end face against casing 20. *Thus, [the] sealing element inherently provides a sealing function at its end faces, when the head 53 is tightened against the casing 20.* [Answer, pages 7-8; emphasis added.]

Under the principles of inherency, when a reference is silent about as asserted inherent characteristic, it must be clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1269, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991). As the court stated in *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981)(quoting *Hansgirg v. Kemmer*, 102 F.2d 212, 214, 40 USPQ 665, 667 (CCPA 1939)):

> Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient. [Citations omitted.] If, however, the disclosure is sufficient to show that the natural result flowing from the operation as taught would result in the performance of the questioned function, it seems to be well settled that the disclosure should be regarded as sufficient.

It does not necessarily flow from the disclosure of Arnold at column 2, lines 44-46, that the head 53 is secured to the casing by screws that the housing parts 20, 53 are tightened in such a way that the end faces of the unnumbered element provide a sealing function. To provide such a sealing function, the axial dimension of the unnumbered element would have to be precisely sized relative to the adjacent shoulders formed in the outlet passage by the joining of the housing parts. Whether this is the case in Arnold cannot be determined from the drawings alone, in our view. Accordingly, we cannot agree with the examiner that Arnold meets these claim limitations.

The Pierce reference, additionally applied against claim 17 for its alleged suggestion of placing the upper end of the outlet passage 60 in housing part 20 of Arnold in axial alignment with the lower end of the passageway of the sealing element, does not make up for the deficiencies of Arnold discussed above. In particular, in Pierce it is the tapered sides of the bushing, rather then the ends thereof, that function to seal the passageway.

In light of the foregoing, we cannot sustain the standing § 103 rejection of claim 17, or claims 20, 21, 23, 31-33 and 37 that depend therefrom, as being unpatentable over Arnold in view of Pierce.

II. The § 103 rejection based on Arnold, Pierce and Lee.

Lee pertains to an expansion sealing device. In Lee, an expansion sleeve 12 having a cylindrical outer surface and an axially tapered inner surface is positioned in the flow passage of a housing. Thereafter, a frusto-conical inner member 14 having a greater average diameter is placed inside the sleeve 12 such that relative movement therebetween causes the sleeve to expand so that its cylindrical outer surface engages the inner surface of the flow passage to form a tight seal therebetween.

In our view, Lee does not make up for the deficiencies of Arnold and Pierce discussed above. In particular, we do not consider that it would have been obvious to utilize the end faces of the unnumbered element of Arnold as sealing surfaces in view of Lee, notwithstanding the examiner's apparent view (see page 10 of the answer) that in Lee end face 18 of inner member 14 and/or

end face 38 of expansion sleeve 12 function to form a "hard seal" with the adjacent shoulder 28 of the passage.

We therefore also cannot sustain the standing rejection of claims 21-30 as being unpatentable over Arnold in view of Pierce and Lee.

III. Conclusion.

Each of the examiner's rejections is reversed.

The decision of the examiner is reversed.

REVERSED

LAWRENCE J. STAAB Administrative Patent Judge	)
JOHN P. McQUADE Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
JENNIFER D. BAHR Administrative Patent Judge	)

ljs/vsh

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